

IMPACT OF TEMPERATURE RISE

+2 deg C



Humans

- Set to rise: Exposure to wider risks to health, livelihoods, food security, water supply, human security and growth
- Numbers affected by water scarcity to double
- 10 million more people exposed to permanent inundation, several hundred million more to climate-related risks and poverty
- Malaria and dengue fever set to be more widespread
- Issues of migration and lower social cohesion will arise



Flora

- Smaller crop yields for corn, rice and wheat – twice as many corn crops will perish in tropics
- 16 per cent of plants tipped to lose over half their climatically determined geographic range



Fauna

- Coral reefs, including Great Barrier Reef, decline by 99 per cent
- More species will be extinct
- Polar bears, seals in danger
- 18 per cent of insects and 8 per cent of vertebrates projected to lose over half their climatically determined geographic range
- Annual catch from marine fisheries down by 3 million tonnes or 50 per cent



Geology

- Arctic Ocean free of sea ice in summer once a decade
- 13 per cent of global land area set to undergo transformation of ecosystems from one type to another
- High-latitude tundra and boreal forests at risk



Economy

- Loss of coastal resources, reduced productivity of fisheries and aquaculture
- Countries in tropics and southern hemisphere subtropics set to see largest impact on economic growth



Singapore

- Risks from heavy rain associated with tropical cyclones tipped to increase
- More land exposed to flooding
- Sea-level rise of up to 1m



WHAT HAS TO BE DONE

- More intensive land-use practices needed
- Need to restore depleted ecosystems
- Change towards less resource-intensive diets

IMPACT OF TEMPERATURE RISE

+1.5 deg C



Humans

- Slower rate of sea-level rise will let small islands and low-lying areas adapt



Flora

- 8 per cent of plants tipped to lose over half their climatically determined geographic range



Fauna

- Coral reefs decline by 70-90 per cent
- 6 per cent of insects and 4 per cent of vertebrates projected to lose over half their climatically determined geographic range
- Annual catch from marine fisheries down by 1.5 million tonnes



Geology

- Arctic Ocean free of sea ice in summer once a century
- Lower impact on land, freshwater and coastal ecosystems



Economy

- More opportunities in green economy



Singapore

- Rapid and far-reaching transitions in land, energy, industry, buildings and transport needed



WHAT HAS TO BE DONE

- Global net human-caused CO2 emissions need to fall by about 45 per cent from 2010 levels by 2030, and hit net zero by 2050
- Large tracts of land have to be converted to growing trees
- Electricity from renewables like solar and wind power will have to jump from 24 per cent to 50-60 per cent
- Coal plants will have to be wound down
- Shift to electric vehicles